

1910

Samuel David Gross: Address by John Chalmers Da Costa, M.D., L.L.D.

John Chalmers Da Costa M.D., L.L.D.

Let us know how access to this document benefits you

Follow this and additional works at: <http://jdc.jefferson.edu/jeffbibliographies>Part of the [History of Science, Technology, and Medicine Commons](#)

Recommended Citation

Da Costa, John Chalmers M.D., L.L.D., "Samuel David Gross: Address by John Chalmers Da Costa, M.D., L.L.D." (1910). *Jefferson Biographies*. Paper 4.
<http://jdc.jefferson.edu/jeffbibliographies/4>

This Article is brought to you for free and open access by the Jefferson Digital Commons. The Jefferson Digital Commons is a service of Thomas Jefferson University's [Center for Teaching and Learning \(CTL\)](#). The Commons is a showcase for Jefferson books and journals, peer-reviewed scholarly publications, unique historical collections from the University archives, and teaching tools. The Jefferson Digital Commons allows researchers and interested readers anywhere in the world to learn about and keep up to date with Jefferson scholarship. This article has been accepted for inclusion in Jefferson Biographies by an authorized administrator of the Jefferson Digital Commons. For more information, please contact: JeffersonDigitalCommons@jefferson.edu.

Samuel David Gross

Address by JOHN CHALMERS DA COSTA, M. D., LL. D.

I am sure that it is known to all of you that the Jefferson Medical College owes a vast debt of gratitude to Mrs. Orville Horwitz, of Baltimore, daughter of the late Professor Samuel D. Gross, for the generous and noble gift she conferred upon this school. She founded and suitably endowed the Samuel D. Gross Chair of General Surgery in memory of her illustrious father, founded it in the college from which he graduated, and in which, as Professor of Surgery, he was long the greatest, the most admired and the most beloved teacher. In selecting the title "Chair of General Surgery" Mrs. Horwitz emphasizes the fact that her father was in the best and broadest sense a general surgeon, treating and operating upon the whole human body, and considering the entire domain of surgery. He believed in specialists of the proper sort; that is in men who are first of all learned physicians and who become specialists because of unusual opportunities, remarkable aptitudes, or likings which beckon irresistibly. He said that specialism "is entitled to undying praise. It has penetrated with its methods and instruments of research the innermost recesses of the human body, and has achieved, in a comparatively brief period, triumphs which general surgery could not have achieved in half a century, if, indeed, ever." Though he thoroughly believed in the right sort of specialist, he disbelieved in narrow men, void of wide and sound training, who proclaim themselves specialists on graduation day. I well remember the fine scorn of Professor Gross, when someone ventured to say to him that the general surgeon had no right to remove a larynx. Gross was a picture of defiance and indignation as he said: "I have treated and operated upon the whole human body for over fifty years; would you maintain that I am unfit to remove a little piece of mucus membrane and cartilage?" I thank Mrs. Horwitz for the useful, appropriate and discriminating title of Professor of General Surgery.

A condition of the foundation is that once a year an address shall be delivered speaking in some way of Professor Gross, of his life, his personality, his literary labors, his scien-

tific achievements, his operative work, his teaching, his general views, his influence upon the profession, or any other element of his fame. This is a most proper condition. Surely every one of you wishes to know something of that grand old teacher, who during so many years, made this arena revered by the surgeons of the world because he taught from it. In obedience to the mandate of the foundation, which is in accordance with the dictates of my nature, I rise this evening to speak of Samuel David Gross, the elder Gross as we always call him, in order to distinguish him from his brilliant son and successor, Samuel W. Gross, my old master, whom I loved and admired with all the enthusiasm of boyhood a quarter of a century ago, and whose memory I revere and cherish now.

I speak in the capacity of the Gross Professor of Surgery, and aver that there is no title of distinction which I could hold with greater pride. I am one of the few here now who was trained under the direction of one of the Grosses, and who was a boy in the Surgical Clinic of those days. Dr. Keen, the Emeritus Professor of Surgery; Dr. Hearn, the Emeritus Professor of Clinical Surgery; Dr. Orville Horwitz, the Professor of Genito-Urinary Surgery; Dr. H. A. Wilson, the Professor of Orthopedic Surgery; Dr. John Fisher, of the Gynecological Department, and Dr. Coplin, the Professor of Pathology, I believe, complete the list.

I love this great State of Pennsylvania, love her for many things. For her patriotism and power, for her great past and mighty future, for her leadership in so many causes that look to the elevation of humanity and the advancement of civilization; I love her for the vast extent of her imperial domain and for her unexcelled contrast of garden-like cultivation with rugged grandeur. The solemn aisles of her forests, the mystic voices of her hills, the majesty of her broad and rapid streams, her valleys golden yellow with the nodding grain, her great cities thronged with commerce and trembling with energy of muscles of iron and sinews of steel, her mountains whose hearts hold steel for the breasts of our enemies and whose summits are rich in laurels for the

brows of our defenders. I love her for all of these things, but I love her most of all for the array of soldiers and scientists, statesmen and patriots, inventors and discoverers, literary men and captains of industry, whose names add luster to the annals of the commonwealth.

As among the greatest Pennsylvanians, one at once thinks of Benjamin Franklin, Benjamin Rush, Anthony Wayne, David Rittenhouse, Stephen Decatur, Jeremiah S. Black, Andrew G. Curtin, Samuel J. Randall, Benj. Harris Brewster, Winfield Scott Hancock, George G. Meade, John F. Reynolds, Robert T. Conrad, Bayard Taylor, Joseph Leidy, D. Hayes Agnew, David Wilmot, James Buchanan, Thaddeus Stevens, Geo. M. Dallas, Dr. Physick, Geo. Sharswood, James G. Blaine, Thomas A. Scott, Franklin B. Gowan and Samuel D. Gross. Gross was the most illustrious graduate of the Jefferson Medical College. He was the most celebrated man who ever taught here. For thirty years, he spoke from his Philadelphia lecture room in tones so authoritative as to sound through this hemisphere and echo beyond the sea. He was the Emperor of American Surgery. He was the leading surgical writer of his day, and wrote three pioneer books on different departments of surgery. He was among the most notable of the great men of the nineteenth century, who really created the magnificent science of modern surgery and many of his views influence us still.

He was the greatest man born in Pennsylvania and the greatest man ever a citizen of Pennsylvania with the single exception of Benjamin Franklin. He was greater than any but Franklin because his mind swayed the thoughts and views of his age, because his influence is more enduring, and because he did more for humanity, as he always wrought for man.

It is not my intention, this evening, to attempt to give a systematic account of his life, or a consecutive story of his work, these things shall be left for other occasions. I intend to speak of Gross, the man, to take as a text, here an act and there a sentence, and gather from them what sort of man he was who did the act and spoke the words. A man's work, like a silkworm's web, is a product. Back of every book, speech, lecture, operation, deed, thought and word, is a living, breathing individual, instinct with personality. We will, this evening, look back at some of the works and deeds of the great surgeon, teacher and writer, and try to see the man. In this effort I shall use things told me of him by some of his former associates and assistants, shall use some books, notably his autobiography, and shall draw upon things that I have seen and heard.

I came to this school in the summer of 1882, and it was in the spring of that year that Gross retired from the Professorship. It may well be asked how I could have seen and heard him. In the first place, he used to come frequently to the lecture rooms, watch operations, give words of advice and now and then say some kindly things to the students. Therefore, I saw him frequently through my first year of study. Furthermore, for a number of years before I began to study medicine, I used to take my holidays to come to this school and to hear the lectures and see the operations of the two Grosses, for they were my surgical heroes. Therefore I had many opportunities for seeing and hearing the elder Gross. It was admiration for him and for his son that brought me to this school to study medicine. He was one of the handsomest and one of the most distinguished looking of men. Most people in Philadelphia knew him by sight and as he walked along the streets, nearly every one turned to look at him. People would say what a splendid looking man, and someone would answer that is Professor Gross. I do not believe that since his day any surgeon has been nearly as well known to the community. The fact is he embodied surgery in the mind of this community. He was tall and well made and moved with a dignified gait. He had a noble head, a broad high forehead, snow-white hair and small white whiskers, characteristic of gentlemen of the old school. His nose was large and significant of character. His chin was strong and his mouth, though usually firm set from a sense of his grim responsibilities and haunting cares, was prone to break into the sweetest and most gracious of smiles. In greeting anyone he was the essence of cordiality and courtesy. His eyes were princely with courage. His forehead was royal of the truth. His voice was deep, clear and impressive and he could be distinctly heard by all even when an audience was very large. His words were admirably chosen and he usually spoke slowly which seemed to add to their force. He was prone at times to rise to genuine eloquence when swept along upon the tide of profound conviction or a favorite idea. He was the very embodiment of professional and professorial dignity and the beau ideal of a wise and learned surgeon.

He commanded the reverent respect of the class.

I believe that heredity is the greatest influence for good or ill which sways the life of man. Heredity makes the warp of the fabric, the woof is woven by circumstance and environment. Temperament, tendencies, physical and mental likenesses, traits, antipathies,

eccentricities, idiosyncrasies, aptitudes, strengths and weaknesses are brought to us on the stream of inheritance. The Hindoos dimly grasped this truth, hence the existence among them of the institution of caste. The Hebrew sages knew it for they said: "The fathers have eaten sour grapes and the children's teeth are set on edge." The Greek hero struggling vainly but heroically against inevitable tragic destiny personifies a fight against hereditary tendencies, against the "Tyranny of the Organism," as Mansley calls it. No man can entirely eliminate his fundamental hereditary tendencies though circumstances and efforts may favor good ones and minimize the power of evil ones, and vice versa. A life long fight against evil tendencies is a duty, for even though it fails, the offspring of the struggler will have added power for the same contest. A generation, several generations or perhaps many generations may pass when an individual appears in the line who possesses characteristics of a grandfather, a great grandfather or even a remote ancestor. This is known as atavism. Believing as I do in the influence of heredity, it is small wonder that I find in the ancestry of Dr. Gross, an explanation of some of his highest qualities; one of the reasons why he was brave, industrious, truthful, honest, hospitable, cordial, warm-hearted, studious and able, a lover of nature and a lover of home.

His great grandparents came from the lower or Rhenish Palatinate in one of the emigrations of the seventeenth century. Before the seventeenth century, the Palatinate was the garden spot of Germany. It was a land of almond trees and vine clad hills, of cultivated fields and comfortable homesteads, of prosperous hamlets and thriving towns of wooded slopes and romantic streams. Its people had been farmers for centuries and were regarded as the best farmers in the world. They were brave, hardy, intelligent, well educated, industrious, indefatigable, tenacious of opinion, loyal, gay, thrifty, home loving, vice hating and peaceable, and were possessed of a native dignity and strength of character. Naturally such people in such a land were highly prosperous. During the seventeenth century, this fair land was subjected to the most prolonged, bloody and frightful desolation by savage armies, lustful of spoil and territory, urged on by religious intolerance and hate. In it were enacted some of the most hideous atrocities of the thirty years war. In it the soldiers of Louis XIV. literally interpreted the orders the Sun King gave to Louvois and "burned up" the country, killing three-fourths of the people and destroying four-fifths of the property. In it Wallenstein and Gustavus Adolphus, Tilly and Spinola, Conde and Turenne, executed some of their

most sanguinary acts. The Palatinate, once a beautiful, cultivated, populous and prosperous land, became a gory wilderness, dotted with the blackened ruins of homesteads, villages and towns, and ranged by great flocks of ravening wolves. Harvests were destroyed, dwellings were leveled to the ground, crops were ploughed up, orchards were cut down, vines were uprooted, streams were contaminated by putrid corpse and once prosperous farmers and merchants were beggars and outcasts. Pallid Famine stalked abroad. Red Pestilence raged in the noontime and walked in the midnight. Where once there had been abundance, all were hungry, so hungry that the conquerors were forced to guard gibbets and grave yards. These things were done in the name of religion, in the name of Christ, in the name of God. Was there ever hypocrisy so colossal? Was there ever blasphemy so impious? For years the inhabitants of this stricken region fought and struggled. They did everything but abandon the opinions they believed to be true. Finally, the utter hopelessness of their condition became plainly evident to all and these patriotic, home loving, excellent Germans were forced to leave their country. Some came to Pennsylvania. At first there were few, but every year the tide swelled and finally great numbers crossed the sea. At the time of the American Revolution, half the population of Pennsylvania was German. In Pennsylvania they took up and cultivated farms, and founded a new Palatinate, industrious, prosperous and happy as the old; one on which the dark shadow of religious persecution has never fallen, in which liberty of conscience is secured to all, and in which free speech is the right of every citizen. These are the people wrongly, disparagingly and stupidly called the Pennsylvania Dutch.

Samuel D. Gross had running in his veins, the blood of calm, scholarly, patriotic, broad-minded, deep thinking, home loving, philosophical Germany, the blood of those who abandoned home and country for the right of free speech and of liberty of conscience.

Gross was brought up on a farm. His father owned a large and finely cultivated farm near Easton, Pa. Hereditary tendencies, linked with daily associations made him love nature. He studied, understood and loved nature through all his days. Birds, animals, woods and especially flowers, were always to him a source of the purest delight. He loved the sunrise with its glory of color, and the sunset with its splendor of flame. He loved the blue depths of the firmament, the wind, the sea, the starlight and the stream, the moon, and the majesty of the storm. He knew familiarly the flora of this part of Pennsylvania. He always kept flowers in his office and about his house and he liked to see them in the hospital wards. Once in the hos-

pital he tenderly lifted a flower from a vase and sadly commented upon how soon it would fade, saying: "It has but one spring and we mortals go almost as quickly, for we have but a few brief springs." He would touch a flower gently, almost reverently. He surely had within him something of the Wordsworth faith. "It is my faith that every flower enjoys the air it breathes." In his auto-biography, in expressing his predilection for cremation as a means of disposing of the dead, he says: "If I am obliged to be buried as other people are, I wish to lie in some spot where birds may sing over my grave and where kindly and friendly hands may deposit a flower as a memento of respect and devotion of my memory. An immortelle is worth all the chiseled marble that was ever erected over a man's tomb." He constantly spoke of nature and drew from her great heart refreshment, instruction and happiness. He not only observed nature, but he studied natural laws and was profoundly impressed with the conviction that "the laws of nature are the real thought of God." His early observations, as he rambled through woods and fields and meadows, helped to make him a keener observer in the hospital and sick room. He always studied the individual as well as the disease, and that is one reason why he was a great physician. The demands of his calling forced him to dwell in towns, but he always loved the country and up to the last days of his life, nature spoke to him a "various language." As I have said, he was very fond of animals. He liked dogs and regarded vivisection as a lamentable necessity, though a necessity. He says he sacrificed "near 100 dogs" in his experiments on the nature and treatment of wounds of the intestines and continues as follows: "and if I were not thoroughly satisfied that the objects had been most laudable, I should consider myself a cruel, heartless man, deserving of the severest condemnation."

Once in Louisville, he was summoned in haste and on reaching the house, found that it was not a person that required his service, but a pet dog. The dog had been in a fight with a mastiff and its eye hung out of the socket, held only by the optic nerve. He sympathized with the grief of the mistress, made no protest at having been summoned under such circumstances, and treated the dog as he would a man the victim of a similar accident. He also tells how on another occasion he treated the broken leg of a chicken, but the result was not good, and he fears that this case lost him his reputation as a veterinary surgeon, and if it had happened to a human being, would probably have put him in a position of being sued for damages.

"Rab and His Friends," by Dr. John Brown, was one of his favorite books. He was fond

of horses, and says he never was so happy as when seated in a buggy "with reins in hand behind a respectable, well broken, trustworthy horse." He was greatly attached to a little canary bird named Dick, and records in his auto-biography, his grief when his yellow friend was lost by the bottom falling off the cage. This bird used to go to him when called, perch on his finger and eat food from his lips. Everything in his life shows his affection and his sympathy for living things, but he was greatly opposed to dog idolatry. He says: "Of all the disgusting sights that meet the eye, there is to me none more revolting than that of a refined woman kissing fondly a dog; taking him to bed with her, holding him in her lap while eating her dinner and taking him out in her carriage."

Advocates of the total abolition of vivisection pretend to cherish a profound conviction. It is, that any scientist who has ever experimented on animals, is cold hearted, brutal and untrustworthy in all relations of life, is a Dr. Benjulio such as Wilkie Collins drew in "Heart and Science." They deny to the scientist even the most rudimentary human virtues and attribute to him the worst of human appetite; that is a real pleasure in witnessing suffering. The life and character of Dr. Gross are conclusive answers to such insane accusations. After all, such charges are evidence that the anti-vivisection society is trying to divert attention from the real issues by drawing a herring across the trail. Listen to the words of Dr. Gross, written after a life time of surgical practice, and see if you can possibly agree with the ideas of the anti-vivisection society as to the sort of man one is bound to be who has performed experiments upon animals. The extract is from Dr. Gross's auto-biography, and is as follows:

"The world has seen many a sad picture. I will draw one of the surgeon. It is mid-day; the sun is bright and beautiful; all nature is redolent of joy; men and women crowd the street, arrayed in their best, and all is apparently peace and happiness within and without. In a large house, almost overhanging this street so full of life and gayety, lies upon a couch, an emaciated figure, once one of the sweetest and loveliest of her sex, a confiding and affectionate wife, and the adored mother of numerous children, the subject of a frightful disease of one of her limbs. In an adjoining room is a surgeon with his assistants, spreading out his instruments and getting things in readiness for the impending operation. He assigns to each his appropriate place. One administers the chloroform; another takes charge of the limb; one screws down the tourniquet upon the principal artery;

and another holds himself in readiness to follow the knife with his sponge. The flaps are soon formed, the bone severed, the vessels tied, and the huge wound approximated. The woman pale and ghastly, the pulse hardly perceptible, the skin wet with clammy perspiration, the voice husky, the sight indistinct. Some one whispers into the ear of the busy surgeon, 'The patient is dying.' Restoratives are administered, the pulse gradually rises, and after hours of hard work and terrible anxiety, reaction occurs. The poor woman was only faint from the joint influence of the anesthetic, shock and loss of blood. An assistant, a kind of sentinel, is placed as a guard over her, with instructions to watch her with the closest care, and to send word the moment the slightest change for the worse is perceived. The surgeon goes about his business, visits other patients on the way, and at length, long after the usual hour, he sits down, worried and exhausted, to his cold and comfortless meal, with a mouth almost as dry and a voice almost as husky as his patient's. He eats mechanically, exchanges hardly a word with any member of his family, and sullenly retires to his study, to prescribe for his patients—never, during all this time, forgetting the poor mutilated object he left a few hours ago. He is about to lie down to get a moment's repose after the severe toil of the day, when suddenly he hears a loud ring of the bell, and a servant, breathless with excitement, begs his immediate presence at the sick chamber, with the exclamation: 'They think Mrs. is dying.' He hurries to the scene with rapid pace and anxious feeling. The stump is of a crimson color, and the patient lies in a profound swoon. An artery has suddenly given away; the exhaustion is extreme; cordials and stimulants are at once brought into requisition, the dressings are removed; the recalcitrant vessel is promptly secured. The vital current ebbs and flows, reaction is still more tardy than before, and it is not until a late hour of the night that the surgeon, literally worn out in mind and body, returns to his home in search of repose. Does he sleep? He tries, but he cannot close his eyes. His mind is with his patient; he hears every footstep upon the pavement under his window and is in momentary expectation of the ringing of the night-bell. He is disturbed by the wildest fancies, he sees the most terrible objects, and as he rises early in the morning to hasten to the patient's chamber, he feels that he has been cheated of the rest of which he stood so much in need. Is this picture overdrawn? I have sat for it a thousand times, and there is not an educated, conscientious surgeon that will not certify to its accuracy."

Gross admired and respected cultivated ladies and greatly enjoyed their society. He often spoke of the refining and elevating influence such women have upon all who are brought in contact with them. He thought it of great benefit to young medical men to move in such a circle and urged them wherever they might be to seek, to make such a cultivated circle their own. He distinctly did not like or admire viragos, and on one occasion sternly reproved a virulent female, who, confident in the infallibility of her own ignorance, denounced surgeons as butchers. He had no liking or toleration for the woman with a mission—the woman filled with a variegated assortment of misinformation, portions of which she exhibits as examples of divinely inspired truth—the peremptory and mandatory woman who knows it all—the emancipated woman—the managing woman—the public woman who delivers curtain lectures to the public and calls them orations—the philanthropist who travels with a press agent—and other female pests which infest society. What he would have thought of female ruffians attacking an English cabinet minister or arrogant female demagogues haranguing jeering crowds from the tails of carts, only the good Lord knows. At the least they would have horrified him.

Woman's supreme conceit and man's wretched abjectness are responsible for a new class of the human race, a race of neuters, such as exists among bees. Crossland suggests that it be called the third sex. The members of the third sex grasp for masculine strengths and power, sacrificing in the attempt the graces, the charms, the elevating influence of genuine femininity. They claim man's rights, but cannot perform man's duties. They insist on doing man's work and their inefficiency is shown by the term "woman's wages." They claim the privilege of the ballot, but cannot pay for it by serving the State in need. They are victims of physiological necessities which forbid to them many things and which seem to proclaim the place in life it was designed that they should occupy, but they calmly disregard the ordinances of nature, and try to put aside her irresistible dictates, as one might take off a jacket or cast away an apple core. The saddest reflection about all of this is that it is men's fault for allowing it.

It is interesting to know why men distinguished in surgery came to enter the calling. Some men become surgeons for the same reason that Eugene Wrayburn became a barrister; you will remember that was because "a barrister was wanted in the family." Some are irresistibly impelled to the career. It is certain that a number of men, eminent in sur-

gery, have taken up that profession without having exhibited in boyhood any signs of special leaning towards it. Nevertheless, I believe, other things being equal, that the man who enters a profession because he loves that work, if he is not disenchanted during his study, will make a better surgeon than one who just loafs into the folds or is dragged in by the family halter. An early bent for any calling may be the aspiration of genius, though, of course, in this world of ordinary people, genius is an infinitely rare accident. Dr. Gross, when very young, wished to be a surgeon. He says: "I had from my earliest childhood the strongest desire to be a doctor. How the feeling was engendered I have never been able to explain, perhaps it was from seeing occasionally a physician at my father's house in time of sickness. However this may have been, the desire had seized me before I was six years of age and continued to haunt me more or less until I was able to gratify it. There are natural born poets, and if there ever was a natural born doctor, I was that one. The impulse was too strong to be resisted."

As a teacher, Dr. Gross was magnificent. There never was a greater teacher of surgery. He knew to the full what he was talking about and he knew exactly how to talk to capture the student's interest and to make him understand. He was animated, full of movement, profoundly interested himself in what he was doing and sometimes enthusiastic. He was systematic, through, clear, absolutely convincing. Everyone listened to him with attention and reverence, for all realized that fifty years of American Surgery were speaking through his lips. He used plain English words. He often quoted his contemporaries, and always with kindly respect when they deserved it, but he denounced in unsparring terms, false pretence, gallery playing, questionable statistics, careless reports and anything that savored of professional dishonor. Years ago, a very well known physician succeeded in getting the United States Government to purchase from him an alleged cancer cure. The material was known, I think, as condurango. Dr. Gross, in speaking of this individual, said before the class: "He sold his professional reputation and his honor as a gentleman for \$10,000 in gold." He frequently referred to the older authors and always with the ease and certainty of a scholar. He had the rare faculty of exhibiting the essential and fundamental elements of a subject, casting out the casual and the transitory, thus saving the student numerous intellectual embarrassments which confuse the mind. He frequently and easily drew from his wonderful memory records of an immense experience, and used them as practical points

to illustrate or emphasize his views. He was prone to relate cases at some length and by them he sought to convey valuable lessons. This was never done with ostentation, always with the modesty of a genuine scientist, and his relation of them was invariably truthful and of striking human interest. In his autobiography, he speaks of an eminent surgeon who used to relate cases that were not true. Now and then his natural and kindly humor showed itself. It warmed and glowed, rather than flashed and burned, and it left no wounds. Now and then he liked to tell an anecdote in order to fix a point in the memory. He used to say: "A mere statement is a nail driven in a board. A story bends the point of the nail, and holds it fast in place." He did not tell his class coarse or vulgar stories. It is needless to say that no man ever should do this thing, although some have done it through the mistaking belief that it would make them popular. No man can be popular with a class unless that class respects him and no class will respect a man who is habitually coarse and vulgar. Like the great John Hunter, he attached the highest possible importance to surgical pathology and principles. He liked to show the *why* of things, the relation of things, how facts came from causes and what causes underly facts, and the numerous threads of relationship which run between many apparently dis-similar states. When he regarded a point as of great importance, he was always most impressive. On one occasion, he brought before the class a man with a ruined knee joint. The joint had been the seat of violent inflammation, and it had not been put at rest on splints. Gross described the case, and pointed out the appearances indicative of disease, and then said: "What is the treatment for an inflamed joint? Rest; Rest; Rest; in the name of the Almighty God."

He sought particularly to make students observe and think for themselves. He used to say: "It is a great wonder that certain things were not discovered long before they were and had men really observed and thought, they would have been discovered. For instance, watching the wood-pecker tap should suggest percussion, and the knowledge of the fangs of the rattle snake should have suggested the hypodermic syringe." If a man knows how to observe the phenomena of disease and how to reason about them, he has gone a long way on the road to being a physician. Facts in numbers can be easily learned, but a memory full of mere facts, however numerous they may be, cannot make a man a good physician. If facts are not properly thought about, they remain an ill digested, hopeless and well nigh useless mass. If the

student has learned to think, he reasons about the facts, sorts them, co-ordinates them, gives each its just place, and is ever on the lookout to identify what Junius called "false facts."

Very important truths, Gross would iterate and reiterate. Guthrie's rule, named for Mr. Guthrie, a celebrated English surgeon, is as follows: "In order to arrest bleeding from a divided artery, tie both ends of the cut vessel in the wound. Do not try to stop the hemorrhage by tying the artery in continuity above the wound, even if such a course would be easier." The reason for this rule is obvious. If the artery were tied above the wound you might tie a main artery when only a branch was divided, and hence unnecessarily endanger a limb. Furthermore, to tie above the wound would only stop the bleeding from the proximal end of the divided vessel, and the hemorrhage from the distal end would continue or recur. Gross taught Guthrie's rule with immense earnestness. He would walk up to the rail of the arena, peer into the face of a student on the first row and say: "How would you arrest arterial hemorrhage? Tie the artery in the wound." He would pass to the next student, look him in the face, and repeat the same sentence, and so on until he had completed the circuit of the arena. No one who heard this lecture ever forgot it, and it must have been the means of saving numerous limbs and many lives. He taught surgical emergencies with the utmost care and insisted that no amount of science and theory constitute sufficient equipment for a practitioner. A practitioner must know how to recognize and combat all the common emergencies. He said that whatever else a student knew he must know how to arrest hemorrhages, relieve retention of urine, treat strangulated hernia, do tracheotomy for a foreign body in the air passages, apply emergency splints for fracture, reduce a dislocation, and a number of other things. In his final examination, in addition to a number of general questions, he asked every student the dose of morphia, laudanum, atrophine and strychnine, and how to make a mustard plaster, a poultice and beef tea. In treating a case he did not use many drugs, but whenever he gave a drug he insisted that it should be given in sufficiently large doses to obtain results. He took a word from one of Fletcher's plays, and would say "no piddling doses." He believed in the wise use of calomel, Dover's powder, Epsom salts, Antimony Blisters, local blood letting, venesection, and local applications of cold, neat, iodine, and lead water and laudanum. He was convinced that some drugs potent for service if used well, are as a rule, given so indiscriminately and carelessly that they have really done

more harm than good. As a type of these drugs be cited digitalis and said: "If I had my way, I would send digitalis to hell." He taught the class much about diet, and used to say that a doctor "should know more of the kitchen than the drug store." He insisted that diet has very much to do with the mental and bodily welfare of mankind, and that dietary errors are responsible for much unhappiness and for many diseases. You will remember that Sidney Smith held the same view when he wrote "old friendships are destroyed by toasted cheese and hard salted meat had led to suicide. Unpleasant feelings of the body produce corresponding sensations of the mind, and a great scene of wretchedness is sketched out by a morsel of indigestible and misguided food." Gross was fond of quoting the maximum of Graves, "Feed FEVERS." He gave the wisest of rules for stimulation and for securing sleep and in all his teaching showed that he was not only a great surgeon, but also a great practitioner of medicine. He was a grand didactic teacher and a splendid clinical teacher. Of late, it has become fashionable to undervalue didactic instruction. Some would banish it entirely from the curriculum. Dr. Gross thoroughly believed in it and his lectures were proof positive of the value of didactic teaching when it is well done. It is quite true that some didactic lectures are worse than useless, but those given by Gross were immensely valuable. Instead of entirely abolishing didactic lectures, colleges should strive to find the right men to deliver them. In a didactic lecture a man can throw various side lights on an intricate subject; he can clear up difficulties; he can impress points on the memory by stories and comparisons; he can clarify all kinds of confusions, and can impress his own personality on his auditors. When teaching is purely clinical, it has to be non-consecutive, as cases must be taken as they come. Such a course gives information about some diseases and injuries and none whatever of many others equally or perhaps more important. It leaves the student without the proper knowledge of the history, the natural history, the pathology, the literature, of even the diseases he has seen and with no plans of treatment except the ones directed for the individual patients he happened to see. The didactic lecture tells the man what he is to *believe*. The clinical lecture shows him what he is to *see*. They supplement each other. Neither can really teach a man to *do*, he must learn that as an interne, an assistant and a practitioner. Gross had no patience with very prosy teachers and could see no sound reason why the most valuable and interesting truths should be presented in the dullest possible manner. As a matter of fact, ignorance cannot be taken

from a student as Eve was from Adam, by throwing him into a deep sleep. He particularly denounced the old custom of reading lectures, considered such lectures pure waste of time, and said that a student had better have been home studying than sitting there listening to them. Gross gave four didactic and two clinical lectures a week and when he lectured in college or hospital, the arena was sure to be filled with visitors. He always made medical visitors welcome, and was accustomed to introduce them to the class. Every visiting foreign physician or surgeon came to Gross's clinic as a matter of course, felt it an honor to see him and to meet him, and was profoundly gratified at the hospitable reception that was extended to him. Gross took the greatest possible pride in his class, and in its affection to him. One day, standing just outside this clinic room door with the late Sir William MacCormac, of St. Thomas Hospital, in London, he said: "Sir William, my friend, let me show you and introduce you to the great class of the Jefferson College. I love it next to my family."

His entry into the lecture room was always most dignified. He strongly objected to applause, and never failed to remonstrate if it were attempted, insisting that it was particularly out of place in the hospital where the dramatic should be unknown. He never missed lectures and always entered the lecture room precisely on the hour. He prided himself on punctuality and often quoted the saying of Louis XIV that "Punctuality is the politeness of princes." When an assistant appeared behind time, the professor would say nothing, but would slowly and solemnly take out a watch, look at it, and then gaze at the offender, until the unfortunate youth wished he could sink through the floor and disappear. Our dear old friend, Dr. Hearn, who was long the chief of Gross's clinic, was a very busy man and now and then was late. He had a series of ingenious explanations which he used on occasion and an explanation from Dr. Hearn was sure to bring a smile to Gross's face, for Gross, like all who know Dr. Hearn, loved him. One day there was an entirely unprecedented occurrence. Gross was late. Minute followed minute and finally, six minutes after the hour, he entered. Every student and every assistant took out a watch (if he had one), looked at it, and then gazed reproachfully upon Dr. Gross. The professor smiled, and said: "Yes, young gentlemen, I am sorry to say that I am late. I might follow the precedent set by Dr. Hearn, and say that the wheel came off of my carriage, but I will not do this, I will convey the truth as follows: If any one of you had had in your office as charming a

young lady as I just had in mine, you would have been far later than I am and perhaps would not have come at all."

He always dressed with scrupulous care. In the college lecture room he wore a long frock coat; in the operating room, a long dark blue coat which, in accordance with the custom of the times, showed the signs of many sanguinary combats with surgical disease. The antiseptic method was just being put to trial and some years were to elapse before it was to come into general use.

Let me say a few words about the old surgical clinic as it was held in this room. It is true that the room has been altered considerably although much of it is the same. It is not this room that you see in the Eakins portrait of Gross which hangs in the college lecture room. The room shown in that picture is the upstairs lecture room of the old college building on Tenth street, which was used as a clinic room every Wednesday and Saturday until the opening of the hospital in 1877, when the present clinic room was first used. The clinic began at 12.30 P. M. and continued until 2 P. M. and was held then, as now, on Wednesday and Saturday. The floor of the old clinic room was of wood and the wooden border was much higher than at present. On a bracket on the south side of the room was a bust of Dr. George McClellan, the founder of the school. In the younger Gross's days, the bust of Professor Pancoast stood on the bracket in the north side of the room. To the west side, towards Sansom street, was a sink, and at this side doors opened into a passage way. The operating table was made of heavy wood, and its only motion was one of rotation on a pivot. When it was expected that much blood was going to be shed, several low open boxes of sawdust were brought in to catch some of it. Several little tables were placed around the periphery of the bull ring, and on them were put open instrument cases, marine sponges, collodion, lint, absorbent cotton, bandages, rubber and isinglass adhesive plaster, basins of water, silk ligatures, wax, silver wire, needles and sometimes cautery irons, and a charcoal brazier to heat the irons. There were also numerous suspender clips. The hemostatic forceps of Spencer Wells had not yet been generally recognized. Dr. Hearn had suggested suspender clips to catch and hold bleeding vessels, a clear anticipation of the hemostat. (Before that time, the only method of catching vessels was to pick each one up with a sharp hook known as a tenaculum, and hold it until the ligature was fastened. This was a slow and laborious process. The hemostatic forceps is one of the greatest improvements of modern surgery, and by the power it gives us to

limit hemorrhage and to take our own time tying vessels renders many operations possible that were formerly impossible). If one looked into the instrument cases, he noticed that the knives had ivory handles and this fact, of course, made boiling out of the question. Precisely at 12.30, Dr. Gross followed by his assistants, entered the arena. After them came a number of physicians from other departments, several of the surgeons of the hospital, and any visitors who happened to be present. The onlookers took seats on chairs arranged around the arena. The assistants wore old jackets of blue cloth or duck, and each one had a bunch of well-waxed, silk ligatures hanging from the left chest to his coat. The Professor and his assistants washed their hands at the sink. As Gross washed, he described the case about to be seen and the operation about to be done. The patient was brought in under the influence of ether or chloroform (Dr. Gross frequently used chloroform). The operation was performed while the Professor explained in detail what was being done. The dressings were applied, the patient was wheeled out, the blood on the floor was swabbed up, the sawdust in the boxes was changed, and the next case was brought in. As I think of that old clinic, it seems to come before me now. I can see the venerable Dr. Gross, white haired, erect and handsome, with one hand raised as he lectured just as you can see him now in the Eakins picture. Dr. Hearn, now the Emeritus Professor of Clinical Surgery, then a young fellow, giving the anesthetic. Assisting in the operation I see Dr. Barton, who became a prominent surgeon and Clinical Professor of Surgery in this school and who lately retired from active practice; Dr. Allis, who is now surgeon to the Presbyterian Hospital and who has done such wonderful and revolutionary work on dislocations and orthopedic surgery and Dr. Thomas H. Andrews, who is with us to-night, and who was long Demonstrator of Anatomy. Sitting in the arena, as interested spectators, I see the strong stern face of the younger Gross, soon to be Professor of the Principles of Surgery; John H. Brinton, afterwards Professor of Practice of Surgery; Richard J. Levis, one of the most brilliant of operators and surgeon to the Pennsylvania Hospital; Frank Maury, brilliant and erratic, who died too young for his fame; John B. Roberts, original and scholarly, and various medical visitors from far and near. Often Joseph Pancoast, the greatest operative genius this country ever produced; sometimes Dr. Keen, now our honored Emeritus Professor of Surgery, and occasionally J. Marion Simms, of New York, and Paris, the founder of gynecology, and next to

Gross, the greatest graduate of the Jefferson Medical College, could be seen. I may say in passing that the greatest graduates of this school were Gross and Simms and the greatest living graduates are Keen and S. Wier Mitchell.

As an operator, Gross was calm, painstaking, careful, rapid, but not hurried, and always proceeding so that students might see and understand what he was doing. All the time he operated he explained. He never tried slap-dash methods and never in his life had he the faintest notion of playing to the galleries. He realized to the full his grave personal responsibility, and always felt that a surgical operation was a great and solemn thing. He used to point out to the class what a wonderful and touching sign of confidence it was for a patient to allow himself to be made unconscious after giving the surgeon permission to do to him as he would, and how such confidence imposed on the surgeon an additional sense of responsibility and the imperative duty of caring for the patient's life and welfare before anything else on the earth. Before operation he studied his case with the greatest care, and thus avoided many needless operations and saved many lives, but he never refused to operate in an emergency simply because an operation was highly dangerous. He was fierce in denunciation of those who would deny the chance given by operation when the state was desperate, simply because death would spoil a surgeon's statistics. The man who operates for statistics can get a wonderful table of results, but he lets some people perish in order to make it. Like all surgeons, he had certain favorite tools, certain highly regarded knives, forceps and scissors. If someone had neglected to put out these tools, he always had them sent for. After the operation, he took personal care of the patient, assiduously watched the progress of the case, and when things were going ill, saw the sufferer frequently, and he would see the poor man in the ward as frequently as he would the rich man in a private room. It was the need that called him, not the fee. Few men of the profession have had greater opportunity to acquire wealth, but he was satisfied with a moderate fortune, because all his life the call of suffering was to him more mandatory than the jingling of the guinea. He was a very successful surgeon. No man of his day obtained better results. For instance, he operated on 69 children for stone in the bladder, employing the operation of lateral lithotomy, and 67 of the children recovered. With all of our boasted modern improvements, no surgeon of the present day could show a better record, and few could exhibit as good a one. When he did lose a case

he felt a personal grief. Once in the clinic he operated on a particularly beautiful, young, golden-haired child. Two or three days afterwards, he was observed walking along the hospital hall with head bent and an expression of the greatest gravity upon his face. A physician stopped him in the hall, spoke to him and said: "Professor Gross, how is that beautiful child you operated upon at your last clinic?" Dr. Gross answered sternly, almost fiercely: "That little child is dying, sir, and it makes me wish to God I had never been a surgeon." Such was his heart! Such were his sympathies after a half a century of surgical practice.

I often saw Gross operate for malignant disease and bone diseases, several times for stone in the bladder and aneurism, and saw him amputate more than once. Occasionally, he exhibited good, honest whiffs of temper and what man who feels strongly about anything can help having them at times? The man who believes nothing and feels strongly about nothing don't rise to the level of temper, and the dishonest man dissembles it. When he was angry, he would express his views in a forcible not to say violent manner. Gross was irritated by stupidity and laziness. Nothing aggravated him more than dealing with a man who had an exaggerated sense of his own personal importance. This condition properly known as swelled head and technically as megaloccephalus, is by no means uncommon in the medical profession. Every now and then one meets a resident physician or a clinical assistant who over-estimates his own value as greatly as though he were suing the Rapid Transit Company for bodily injury.

On one occasion a patient was brought into the clinic and was found to require a small operation upon the foot and Gross determined to do it at once. He directed one of the junior assistants to wash the foot. The young man declined to do so, stating that he hadn't come there to do such work. The Professor called for the soap, water and scrubbing brushes, and did it himself, dismissed the assistant from his position, and told the class that there was nothing dirty in surgery. On one occasion, he walked into the out-patient room where a junior assistant was speaking in a very imperative manner to one of the poor patients. Gross said: "Young man, you speak as one in authority, but the basis of all authority here must be kindness." There never was a harder worker than Gross. From his earliest boyhood to extreme old age, he was an untiring and indefatigable worker. He denied himself the possession of genius, but if, as has been said genius is an infinite capacity for labor, he surely had it. He did not believe

much in what are called the inspirations of genius, and said that "the greatest efforts that have ever been made—were the result of hard study and patient labor." How hard he was accustomed to work may be estimated when we hear him tell of the writing of the sixth edition of his surgery. He would sit at his desk each evening until he had written twenty-five foolscap pages with his own hand, for those times were not the days of stenographers and typewriter machines. Then he would take a walk from Eleventh and Walnut streets to Fifth and Chestnut streets, and return to the house, stopping at the hospital on the way up, and mounting 111 steps to reach the fifth floor, as in those days the elevators stopped running early in the evening. Yet all of this was done after the day's work, which comprised holding office hours, visiting patients, attending consultations, lecturing, operating and answering numerous letters. He did this sort of work day in and day out during many years, and worked right up to the end, claiming that it is better "to wear out than to rust out." He had a horror of lingering superfluously on the stage of life, of living when incapable and wretched like one who slowly dies of cancer or tuberculosis. He objected to the church service prayer to be saved from sudden death. He wished that death should come quickly when it did come. On one occasion, exhibiting the brain of a man who had died almost instantly of an overwhelming apoplexy, he pointed out the blood clot, and said: "The way a gentleman should die." When far beyond seventy years of age Gross said: "Brain work with constant application has been a great comfort to me as well as a great help; it has enhanced the enjoyment of daily life, and added largely to the pleasure of the lecture room and of authorship. A man who abandons himself to a life of inactivity after having been accustomed to work is practically dead."

Samuel D. Gross was the most influential and celebrated medical writer the country has produced. Immediately after his graduation he translated from the French, the "General Anatomy of Bayle and Holland and Hattan's "Manual of Obstetrics." He next translated from the German, "Hildenbrand, on Typhoid Fever," and from the French, "Tavernier's Operative Surgery." This latter book was the first treatise on operative surgery published in America, and had a great success. When he translated these three books, he had an office at Fifth and Library streets.

In the Autumn of 1830, two and a half years after his graduation, he wrote an original treatise upon the diseases and injuries of the bones and joints. This book was very well received, but, nevertheless, he was not paid

a single cent for his labors. In 1839, only eleven years after his graduation, he issued his great book on "Pathological Anatomy" which was "the first attempt ever made in the English language to systematize the subject and to place it in connected form before the profession." The book was refused by many publishers, but was finally accepted by a Boston house. For the first edition he received no remuneration. This work was very successful; made him famous at home and abroad, and through subsequent editions remained in vogue for over twenty-five years. Years afterwards at a great banquet given to Gross in Berlin, Virchow rose with this book in his hand, and told how much he valued it and how useful it had been to him in his studies. In 1851, Gross published a comprehensive treatise on the diseases of the Urinary organs, and it at once became the chief authority on this subject. There were only two treatise in English on these diseases, one by Brodie and one by Coulson, and they were both incomplete and unsatisfactory. The last edition of this important book was issued in 1876; was edited by the younger Gross, and was still an authoritative text book at the end of the eighties. In 1854, Gross issued his celebrated treatise on Foreign Bodies in the Air Passages. He says: "It was the first attempt to systematize our knowledge on the subject, and is therefore strictly speaking a pioneer work." Dr. Morrell MacKenzie, the distinguished English Laryngologist, thirty years after the publication of this book, said that it is an "Invaluable Essay," and "It is doubtful if it will ever be improved upon." In 1859, he issued the first edition of his magnificent "Text Book of Surgery," the greatest surgical treatise of his day, and probably one of the greatest ever written by one man. It was named "A System of Surgery—Pathological, Diagnostic, Therapeutic and Operative." It had an immense success. The sixth edition was issued in 1882. (It is a two volume work of over 2300 pages and contains over 1600 illustrations). It is beautifully written and is so clear that any fairly intelligent man can understand the most difficult subject of which it treats. From this book one can obtain specific directions for treating in detail all sorts of surgical conditions. It is a perfect mine of information and gives evidence of the broadest scholarship, complete acquaintance with contemporary literature, a philosopher's grasp of all surgical problems, and an immense clinical experience. This book was translated into several languages, and was read, admired and praised all over the world. It had a stupendous influence on surgical thought. It is a great misfortune that for want of a new edition, it has been permitted

to die. In the preface of the sixth edition, he truly says, that the work should "be regarded as embodying the results of a large *personal* as well as *ripe* experience, of extensive reading, and of much reflection, in a word as exhibiting surgery as I, myself, understand it, and as I have so many years conscientiously taught it.") The personal element is recognizable everywhere in the book. No more modern work exactly takes its place. You often want to find things that you can find nowhere else. I always keep it close to my elbow and consult it daily.

At the outbreak of the Civil War, he wrote a manual of Military Surgery, which was translated into Japanese in 1874. In 1861, he edited a large book entitled "Lives of Eminent American Physicians and Surgeons of the Nineteenth Century," writing several of the sketches himself. Besides writing the above mentioned books, he, for a time, edited a medical journal, contributed to the periodicals numerous valuable biographical, literary and scientific articles, and some papers of original research, made a multitude of important and widely quoted addresses, and wrote many reviews of books. Think of the immense amount of time, thought, study and labor these numerous productions must have required, yet he wrote in hours snatched from sleep and on days when he was immersed in teaching, operating and the cares of a large practice. He always arose in the neighborhood of six A. M. He was usually a good sleeper, and says that when very tired and not worried, he could "sleep anywhere and in almost any posture." Just before dinner he was apt to take a ten-minute nap in a chair, and regarded such a sleep as infinitely better than a postprandial doze because he believed that the latter leaves "the brain in a dull stupid condition, unfit for active mental exertion." He often worried about his cases, and when he was worried could not sleep. He had that strange alarm-clock faculty of being able to wake up any hour he desired without being called, and he says the possession of this faculty is one of the reasons why he never missed a train in his life. He liked to be a little ahead of time on appointments. He was scrupulously careful to be on time at consultations and he never permitted any doctor to delay him. He was very particular about regularity at meals and attached much importance to it. He was fond of meal hours, because then he says he had a chance to meet and talk with his family, and at other times he could seldom see much of them. He pursued the good old custom of dining at 2 P. M. He did not like alcoholic drinks, except occasionally a hot whiskey punch on a cold night, but he was fond of champagne, Sauterne, Rhine wine, and occasionally drank

claret or Scotch Ale. He was very fond of coffee, but had to give it up when he was thirty-five years of age, because it disagreed with him and from that time on drank black tea, which he claimed relieves fatigue and preserves strength far better than alcohol, when a man has to perform any severe mental or physical labor. He neither chewed or smoked. He was very fond of the theatre, but did not care for the opera, and was apt to go to sleep during the performance, but all through his life a circus gave him "genuine amusement." He was in no sense of the word a "party man." In his younger days he used to vote, but he always voted for the man he thought the best man and never for a mere party label. Afterwards he stopped voting because of the unworthiness of most of the candidates. For the doctor who goes into politics and for the doctor who preaches he had an equal contempt. He was broadly read on many things outside of medicine and was particularly fond of history and books of travel, but he did not think it necessary for a doctor to be profoundly versed in the classics and general literature; in fact, he believed that medical practice left one very little leisure for the study of such things.

No man was more kind and charitable to the poor and he always had a number of patients whom he was attending for nothing, but when a patient could afford to pay a fee he insisted that the fee should be paid. He never overcharged people, and did not love money enough to want to. He says that the largest fee he ever obtained was \$2000. Think of the fees some men charge, and it is said collect, men who are pigmies compared to Gross.

Gross was modest, unostentatious, fair and just to his professional brothers, always willing to aid a physician in trouble, or to go into court and help a doctor who was unjustly sued. He was absolutely honest in everything. I can imagine the indignation he would have felt and expressed for the infamous custom of fee division that some medical rascals practice to-day.

He was entirely independent in thought and action, never misled by clamor, or influenced by popular delusion. His mind showed no mark of a saddle and no ring for a bridle even in old age. He was the very soul of hospitality, loved to gather his friends about him and entertained every medical man of note who came to Philadelphia. He was a warm friend and a forgiving enemy and few men in the medical profession can have had as many devoted friends as he. He was particularly attached to Austin Flint, Willard Parker, The Yandells, of Louisville; Maston, of Mobile; James R. Wood, of New York; J. Marion Simms and D. Hayes Ag-

new. He was quick to discern young talent and eager to publically recognize and praise it, and many a young fellow, perhaps in a distant part of the country, would be cheered and delighted beyond measure after he had published some article in a medical journal to receive a letter of compliment from the first surgeon of the land. Dr. Nicholas Senn, who was a surgical genius of the highest order, told me that he never forgot the feeling of pride and pleasure he felt when Dr. Gross wrote him a note praising one of his earliest articles and encouraging him to proceed in his experiments and observations. Filled with gratitude for this, and long years after Dr. Gross's death Senn dedicated to his memory a great book on tumors.

He must have been a most lovable and affectionate man with his family. It never failed to touch the class when the elder Gross would come in the lecture room to hear the younger Gross lecture. You could read the affection and pride on his face as he recognized that his son was the greatest surgical teacher of his day. In holding a consultation, he always observed the old dignities, the family physician went upstairs first and Dr. Gross last. Dr. Gross left the room first, the family physician last and so on, and I believe he would have permitted himself to have been burned at the stake rather than have said or done a dishonorable or underhand thing to a consultant.

From the meagre hints given above you may be able to gain some slight notion of the personality of the greatest of America's surgeons and teachers. I have told nothing of the honors that came to him—how he was revered—how he founded the American Surgical Association—how he was the most influential member of the American Medical Association, and once its president—how he was president of the International Congress of Surgery in 1876—how he received high public honors in Germany—how he obtained the D. C. L. of Oxford, the L. L. D. of Cambridge, the L. L. D. of the University of Edinburgh, and on his death bed the L. L. D. of the University of Pennsylvania. These things have all been set forth in the consecutive stories of his life.

Gross had one of the most comprehensive and luminous intellects ever devoted to the art and science of surgery. He was a genuinely great man—he was a good man—he was a gentleman. We pay tribute to his memory, not only with admiration for the surgeon and teacher, but with respect and affection for the man.

No more just estimate of him could be made than that contained in his epitaph, written by his friend and pupil, Dr. Yandell, of Louisville.

"IN MEMORIAM"

Within this urn lie the ashes of
SAMUEL D. GROSS
A Master in Surgery.

His life, which neared the extreme limits of the Psalmist, was one unbroken process of laborous years.

He filled chairs in four Medical Colleges in as many States of the Union and added luster to them all.

He recast Surgical Science, as taught in North America, formulated anew its Principles, enlarged its domain, added to its art, and imparted fresh impetus to its study.

He composed many books, and among them

A SYSTEM OF SURGERY

which is read in different tongues, wherever the Healing Art is practised.

With a great intellect, carefully trained and balanced, he aimed with undivided zeal at the

noble end of lessening human suffering and lengthening human life, and so rose to the highest position yet attained in Science by any of his countrymen.

Resolute in truth, he had no fear; yet he was both tolerant and charitable.

Living in enlightened fellowship with all laborers in the world of Science, he was greatly honored by the learned in foreign lands, and deeply loved at home.

Behind the Veil of this life there is a Mystery which he Penetrated on the

SIXTH DAY OF MAY, 1884.

HIS MEMORY.

Shall exhort and his Example shall encourage and persuade those who come after him to emulate deeds which, great in themselves, were all crowned by the milk-white flower of
"A STAINLESS LIFE."



